

Remarks

The Applicants note with appreciation the withdrawal of the prior rejections.

The Applicants acknowledge the duplicate claims warning. In view of various amendments to Claims 1 – 3 and 6 – 8, the Applicants note that Claims 11 – 16 are no longer necessary. Those claims have accordingly been cancelled.

Claims 1, 2, 6, 7, 11, 12, 14 and 15 now stand rejected under 35 USC §103 over newly cited Yoshii. The Applicants respectfully submit that the rejection is now moot with respect to cancelled Claims 11, 12, 14 and 15. The Applicants note with appreciation the Examiner's detailed comments hypothetically applying Yoshii to Claims 1, 2, 6 and 7. However, the Applicants respectfully submit that Yoshii fails to provide disclosure sufficient to meet the standard under 35 USC §103. Details are set forth below.

The rejection frankly acknowledges that Yoshii does not explicitly teach that the claimed steel has excellent fatigue endurance after quenching, low temperature toughness, resistance for hydrogen embrittlement and a fatigue endurance of at least 500 MPa after quenching. The Applicants agree. The rejection, nonetheless, states that such claimed properties “would be expected by one of ordinary skill in the art to be inherent to the steel of the prior art because of its substantially identical composition and microstructure.” The rejection specifically points to MPEP §2112.01.

The Applicants appreciate the fact that MPEP §2112.01 has been highlighted in conjunction with the position of inherency. The Applicants have additional comments in that regard. Specifically, the test for inherency under MPEP §2112.01 is quite strict. That section requires that a claimed result or a characteristic “must necessarily” be present in the prior art to satisfy a rejection based on inherency. It is not enough that the result or characteristic may be

present, could be present or is even likely present. The result or characteristic at issue “must necessarily” be present.

With that background in mind, the Applicants will assume for the sake of discussion that there is some degree of overlap with respect to at least portions of composition and the microstructure of the Yoshii steels versus those claimed by the Applicants. However, those skilled in this art are quite well aware of the fact that characteristics of steels are not only subject to identity or overlapping of composition and microstructure. Those skilled in this art are also well aware that the process utilized to make such steels can and very often does have a very material impact on the ultimate physical characteristics of the steels. Thus, the Applicants respectfully submit that it is not enough to merely compare the composition and microstructures to determine whether characteristics would inherently be present under the strict requirements of MPEP §2112.01. It is also necessary to look at the methodology employed by the Applicants on the one hand and the prior art on the other hand.

The Applicants have made this comparison and discovered that while there are certain limited similarities between the Applicants’ methodology and the methodology of Yoshii, there are several significant departures in that methodology. These departures have a notable impact on the physical characteristics of the respective resulting steels.

For example, Yoshii discloses hot rolling a slab with a finishing temperature of 820 to 950°C and then subjecting the resulting hot rolled sheet to a coiling temperature of 400 to 700°C in Par. [0103]. The Applicants’ hot roll their steel sheets and also subject their resulting hot rolled steel sheets to coiling temperatures. Again, there is some degree of overlap in both the hot rolling temperatures and the coiling temperatures. However, the Applicants do something that is entirely different from Yoshii. In particular, the Applicants employ a slow cooling time after

finish rolling and the coiling. Specifically, the Applicants employ a delay in the coiling after completion of the finish rolling. This delay is not a particularly long period of time, but it is important and can have a material affect on the characteristics of the resulting steel. Thus, the Applicants delay initiation of the coiling by a time period of at least two (2) seconds. As noted above, this has a material impact.

The Applicants have factually established the importance of such a slow cooling time before coiling in their examples. This is reflected in the tables at the latter portion of the Applicant's Specification. In particular, the Applicants invite the Examiner's attention to Table 6, Steel No. 33 which is among a series of steels which are Steel "B" as indicated by Nos. 32 – 36. In other words, the composition of the steel is exactly the same between Nos. 32 and 36. Steel Nos. 35 and 36 will not be further discussed because they were subjected to a coiling temperature outside of the Applicants' claimed range. Thus, the Applicants invite the Examiner's attention to a comparison of Steels 32, 33 and 34 wherein the only process difference outside of the Applicants' range was the slow cooling time for Steel No. 33, which was 1.4 seconds. This is compared to slow cooling times of 3.8 and 6.4 seconds in Steels 32 and 34, respectively.

Then, referring back to Table 6 and Steel Nos. 32, 33 and 34, it can be seen that the fatigue endurance of Steel No. 33 is only 436 MPa. However, for Steel Nos. 32 and 34 that were subjected to the different process parameter of the slow cooling time of greater than two (2) seconds, the fatigue endurance jumped to 523 and 513 MPa.

What does this mean? This means that a steel having an identical composition and, supposedly, microstructure, has different physical characteristics compared to other steels having

the same composition and same microstructure. This is because of differences in process steps that the steels were subjected to.

The Applicants disclose a process step which is not disclosed by Yoshii. Those skilled in the art have no idea whether there is any delay between the completion of finish rolling and initiation of coiling in Yoshii. This is simply not appreciated or discussed in Yoshii. The Applicants, therefore, respectfully submit that this creates a serious degree of uncertainty as to the characteristics of the Yoshii steels. As such, the Applicants respectfully submit that they have factually established that the Yoshii steels do not meet the test of the characteristic “necessarily” being the same as the Applicants’ claimed fatigue endurance after quenching of 500 MPa or more.

Could Yoshii’s fatigue endurance be 500 MPa or more? We simply do not know. It might be the same or it might not be the same. However, the Applicants respectfully submit that could be, might be or may be does not meet the test set forth in MPEP §2112.01. That test is strict and the Applicants have factually established through actual test data submitted under oath that subjecting their steels of identical composition to different process steps does have a material impact on the characteristics of those steels---a claimed characteristic in this case. Inasmuch as Yoshii fails to disclose that process step at all, we simply do not know whether the fatigue resistance of the Yoshii steels would be the same. Thus, inherency is inapplicable under MPEP §2112.01. Withdrawal of the rejection is respectfully requested.

Claims 3, 8, 13 and 16 stand rejected under 35 USC §103 over the hypothetical combination of Fujita with Yoshii. The Applicants respectfully submit that the rejection is moot with respect to cancelled Claims 13 and 16. However, the Applicants respectfully submit that

Fujita fails to provide additional teachings that would cure the deficiencies set forth above with respect to Yoshii. Withdrawal of the rejection is respectfully requested.

Claims 1 – 3, 6 – 8 and 11 – 16 stand rejected under 35 USC §103 over Fujita. The Applicants again note that the rejection as it applies to Claims 11 – 16 is moot in view of their cancellation.

The Applicants note that the rejection based on Fujita is essentially the same as the rejection based on Yoshii. In that regard, the rejection states that the acknowledged differences of Fujita over the Applicants' claims (failure to disclose excellent fatigue endurance after quenching, low temperature toughness, resistance for hydrogen embrittlement and a fatigue endurance of at least 500 MPa after quenching) is not a patentable distinction "for the same reasons as stated in Item No. 4 supra." The Applicants respectfully submit that the arguments in favor of non-obviousness are also the same. There is no disclosure in Fujita with respect to the Applicants' slow cooling time. Accordingly, it is not possible to establish inherency under MPEP §2112.01. Withdrawal of the rejection based on Fujita is also respectfully requested.

In light of the foregoing, the Applicants respectfully submit that the entire application is now in condition for allowance, which is respectfully requested.

Respectfully submitted,



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